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SYNTHESIS, CHARACTERIZATION, AND BIOLOGICAL EVALUATION OF UREA DERIVATIVES OF *p*- XYLYLENEDIAMINE

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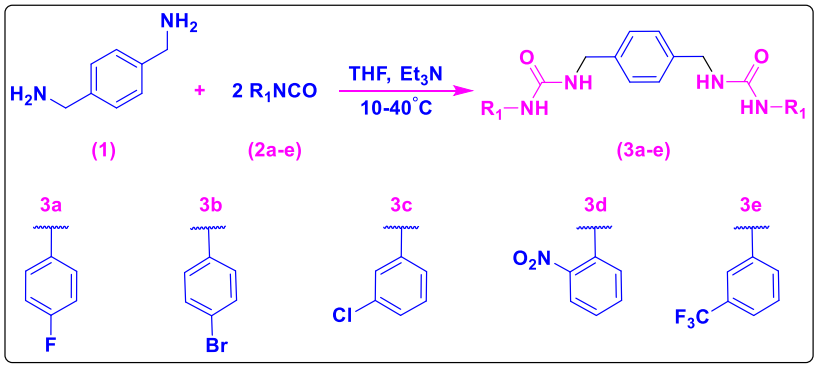
A novel and efficient method has been developed for the synthesis of 1,1'-(1,4-phenylesubstituted-bis(methylene))bis(3-phenylurea) derivatives from 1,4-phenylene-dimethanamine and aryl isocyanates. Further the reaction conditions like base and solvent selection has been optimized and found triethyl amine as a suitable base and tetrahydrofuran as an effective solvent and also identified 10-40°C as an optimized temperature condition.[1-4] The advantage of the reaction is easy work-up procedure and obtained the products with moderate to good yields. The synthesized compounds were structurally confirmed by IR, ^{1}H, ^{13}C NMR and mass spectral analysis and elemental analysis. In addition the synthesized compounds were further evaluated for their *in vitro* antioxidant and antibacterial activity and identified them with noteworthy anti-oxidant and anti-bacterial potentiality.



References:

1. Zhubanov KA, Abildin TS, Bizhanova NB, *J. Appl. Chem.*, **2003**, 76, 1341-1345.
2. Ungerstedt U, Fuxe K, Goldstein M, *Eur J. Pharmacology.*, **1973**, 21, 230-237.
3. Fournier J, Bruneau C, Dixneuf PH, Lecolier S, *J. Org. Chem.*, **1991**, 56, 4456-4458.
4. Faidallah M, Khan K, Asir A, *J. Fluorine Chem.*, **2011**, 132, 131-137.